

*Research Article*

## Reinventing Performance: Digital Transformation and Intellectual Capital in Indonesia's New Economy Sector

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### Abstract

This study examines the influence of digitalization and intellectual capital on the financial performance of new economy companies listed on the Indonesia Stock Exchange during 2021–2023. Using a saturated sample and panel data regression analysis, the findings reveal that digitalization does not have a significant effect on financial performance, while intellectual capital shows a strong positive influence on return on assets (ROA). The originality of this research lies in its focus on Indonesia's new economy sector, which is highly dependent on intangible assets for value creation. By integrating digital transformation concepts with the resource-based view, this study provides empirical evidence that knowledge-based capabilities play a critical role in enhancing firm performance. The results suggest that digital investment alone is insufficient without strong intellectual foundations. Practically, the study highlights the importance of continuous human capital development, efficient organizational processes, and innovation-supporting structures. From a policy perspective, the findings indicate the need for regulatory support, including incentives for intellectual capital development and the integration of ESG principles in digital business practices.

Keywords: Digitalization, Intellectual Capital, Financial Performance, ROA

JEL Classification: M15, O34, G32

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## 1. Introduction

The rapid development of digital technology has fundamentally transformed business practices, economic systems, and the competitive landscape of global industries. Digital transformation is no longer optional; instead, it has become a necessity for companies to maintain operational efficiency and organizational resilience (Zeng et al., 2022). In Indonesia, digitalization has accelerated significantly in the last decade, driven by increasing internet penetration and consumer reliance on online platforms (Zulkifli et al., 2023).

These technological advancements have strengthened consumer knowledge, enhanced access to information, and facilitated rapid shifts in purchasing behavior, generating new opportunities and challenges for digital-based companies (Ghulam, 2023). Therefore, the digital transformation phenomenon provides an essential starting point for understanding how technological adoption affects corporate financial outcomes in the new economic sector.

A critical implication of digital transformation is its ability to reshape business models by enabling automation, improving data-driven decision-making, and enhancing operational efficiency. The digital economy promotes the integration of technologies such as big data analytics, cloud computing, blockchain, and artificial intelligence to support productivity improvement and financial value creation (Coryanata et al., 2023). However, despite the rapid expansion of digital business, empirical results regarding the impact of digitalization on financial performance remain inconsistent. Several studies demonstrate that digital adoption improves profitability and operational efficiency (Kurniawan et al., 2021; Lantip & Daljono, 2023), whereas others find that digitalization has no direct impact on financial performance due to high implementation costs and long-term return characteristics (Anindita & Muharam, 2023; Xin & Choudhary, 2019). These mixed findings reinforce the importance of further investigation, especially in Indonesia's new-economy companies, which are still navigating early-stage growth and structural consolidation.

The COVID-19 pandemic further magnified businesses' dependence on digital ecosystems while simultaneously exposing the vulnerability of newly established digital firms. Although many predicted that digital platforms would thrive during the pandemic, Indonesia's startup sector experienced massive layoffs and financial distress, with more than 10% of local startups shutting down in early 2021 (Diningrat et al., 2022). This contradiction illustrates a research gap regarding the extent to which digitalization genuinely strengthens financial performance in digital companies. Financial performance itself serves as a crucial indicator reflecting a company's ability to manage resources, generate profit, and maintain investor trust, especially during economic uncertainty (Hutabarat, 2020). Therefore, analyzing the digitalization–performance relationship within new-economy firms is highly relevant for better understanding their sustainability prospects.

Beyond digitalization, intellectual capital has emerged as a strategic intangible asset crucial for competitive advantage in the digital economy. Intellectual capital consists of human capital, structural capital, and relational capital, all of which contribute to innovation capability and operational efficiency (Hermanto et al., 2021). In line with the Resource-Based View (RBV), companies with strong knowledge assets are better able to develop innovative products and achieve superior performance (Dewi et al., 2020). However, prior research also shows mixed results. While several studies find that intellectual capital strengthens financial performance (Kurniawati et al., 2020; Murti et al., 2023), others report that intellectual capital does not significantly affect profitability due to immature knowledge management systems or insufficient organizational learning processes (Anjarwati et al., 2022; Rahmaniar et al., 2020). These divergent findings indicate that the intellectual capital–performance relationship requires deeper empirical assessment, particularly in digital-based firms whose operating models rely heavily on intangible resources.

Despite the growing literature on digitalization and intellectual capital, there remains a research gap in the context of Indonesia's new-economy companies—firms that depend on technology, innovation, and platform-based operations. Existing studies primarily focus on banking, manufacturing, or mixed industries, leaving limited evidence on whether digitalization and intellectual capital influence financial performance in firms categorized under Indonesia's new economy index (Coryanata et al., 2023). Furthermore, many new economic companies face declining revenues during their early operational stages due to high investment in digital infrastructure, marketing expenses, and customer acquisition (Sandria, 2023). Thus, it becomes crucial to analyze whether digital transformation efforts and intellectual capital capabilities effectively contribute to their profitability.

Based on the phenomenon, rationality, and research gap, this study aims to empirically examine the impact of digitalization and intellectual capital on the financial performance of new economy companies listed on the Indonesia Stock Exchange (IDX). This research offers several contributions. First, it enriches empirical evidence in the domain of digital transformation and intangible asset management by focusing on newly digitalized firms. Second, it provides insights for investors and policymakers regarding the sustainability and financial prospects of technology-driven businesses in emerging markets. Finally, the novelty of this research lies in its focus on the intersection of digitalization intensity, intellectual capital efficiency, and financial performance, specifically within Indonesia's new economy sector. This area remains underexplored despite its rapid expansion and strategic importance in the national digital ecosystem.

## 2. Literature Review and Hypothesis

### Literature Review

#### Digitalization

Digitalization refers to the process of integrating digital technologies to transform organizational activities, business models, and value creation mechanisms (Zeng et al., 2022). Through advanced technologies such as cloud computing, big data analytics, and the Internet of Things (IoT), digitalization enhances companies' ability to streamline operations, reduce information asymmetry, and improve decision-making accuracy (Coryanata et al., 2023). In the context of emerging markets, digital transformation is considered a strategic resource that enables firms to respond more effectively to market turbulence and technological disruption (Zulkifli et al., 2023). The Resource-Based View (RBV) suggests that digital capabilities can serve as valuable, rare, and hard-to-imitate assets that ultimately strengthen competitive advantage. Several scholars also highlight that digitalization may enhance productivity by enabling firms to expand their customer base and optimize internal efficiency (Kurniawan et al., 2021). Despite these advantages, the existing literature reports mixed findings regarding its direct influence on firm performance, due to varying levels of digital adoption and the high investment costs associated with digital transformation (Anindita & Muharam, 2023). Hence, the influence of digitalization on financial outcomes remains an important area for further empirical exploration.

#### Intellectual Capital

Intellectual capital comprises the collective intangible resources embedded in human expertise, structural processes, and relational networks that contribute to a firm's value-creation capability (Hermanto et al., 2021). According to RBV theory, intellectual capital serves as a foundation for achieving sustainable competitive advantage because knowledge-based assets are complex for competitors to replicate (Dewi et al., 2020). In modern digital-driven organizations, intellectual capital is considered essential for fostering innovation, improving operational efficiency, and enabling firms to adapt quickly to environmental changes (Murti et al., 2023). Human capital, which includes employee skills and competencies, drives creativity and organizational learning; structural capital supports process efficiency; and relational capital enhances customer loyalty and stakeholder trust. Prior studies suggest that companies with greater intellectual capital tend to achieve better financial outcomes due to enhanced innovation capabilities and productivity (Kurniawati et al., 2020). However, some studies also report contradictory findings, indicating that intellectual capital does not always translate into improved financial performance, particularly when organizations lack adequate implementation strategies for managing knowledge assets (Anjarwati et al., 2022). These mixed results underline the importance of continued analysis within specific industry contexts, such as those of new-economy companies that rely heavily on intangible assets.

#### Financial Performance

Financial performance represents a firm's ability to effectively utilize its resources to generate profits, sustain growth, and enhance shareholder value (Hutabarat, 2020). Common indicators of financial performance, such as Return on Assets (ROA), reflect managerial efficiency in converting assets into earnings. In the digital economy, financial performance is influenced by both tangible and intangible drivers, including technological capabilities and knowledge-based resources

(Purwanto & Fito Mela, 2021). Previous research indicates that firms with strong digital capabilities and intellectual capital tend to achieve better financial results due to greater capacity for innovation, efficiency, and market competitiveness (Murti et al., 2023). However, it is also noted that financial performance in new-economy firms can fluctuate significantly due to substantial investment costs, market volatility, and rapid technological change (Sandria, 2023). Therefore, analyzing how digitalization and intellectual capital jointly influence financial outcomes offers a crucial perspective on firm sustainability in dynamic environments.

## Hypothesis

### **The Effect of Digitalization on Financial Performance**

Digitalization is widely acknowledged as a strategic driver of organizational performance because it allows companies to automate processes, enhance operational efficiency, and improve decision-making through real-time data analytics (Coryanata et al., 2023). From the perspective of the Resource-Based View, digital capabilities represent valuable and unique resources that can enhance competitiveness and improve financial performance (Zeng et al., 2022). Empirical studies show that digitalization can positively influence profitability and productivity by enabling firms to optimize their operations and expand market reach (Kurniawan et al., 2021; Lantip & Daljono, 2023). However, other studies find no direct relationship between digitalization and financial performance, particularly in businesses with high digital investment costs or in early-stage digital transformation processes (Anindita & Muharam, 2023; Kristianti et al., 2021). These inconsistencies suggest that the financial impact of digitalization may vary across industries, maturity levels, and organizational structures. In new-economy companies where technological innovation is fundamental, digitalization is expected to play a critical role in improving financial results.

**H1: Digitalization has a significant effect on the financial performance of new economy companies listed on the Indonesia Stock Exchange.**

### **The Effect of Intellectual Capital on Financial Performance**

Intellectual capital is central to value creation in knowledge-based firms because it supports innovation, operational improvements, and the development of competitive advantage (Dewi et al., 2020). Human capital enables learning and creativity, structural capital supports efficient processes, and relational capital enhances customer and investor confidence (Hermanto et al., 2021). According to the RBV theory, firms that successfully leverage intellectual capital can achieve superior performance by leveraging unique organizational knowledge that is difficult to imitate. Prior empirical studies support this perspective, finding that intellectual capital positively influences financial performance across various industries (Kurniawati et al., 2020; Murti et al., 2023; Purwanto & Fito Mela, 2021). However, some research reports non-significant results, arguing that intellectual capital may require long-term development before generating measurable financial outcomes (Anjarwati et al., 2022; Rahmaniar et al., 2020). In the context of new economy companies—where innovation speed and technological capabilities are essential—intellectual capital is expected to play a crucial role in enhancing profitability and operational efficiency.

**H2: Intellectual capital has a significant effect on the financial performance of new economy companies listed on the Indonesia Stock Exchange.**

## **3. Data and Method**

### **Research Strategy**

The strategy used in this study is a quantitative-associative approach. In associative research, the researcher determines whether there is a causal relationship between the variables. Associative research aims to uncover the potential influence and relationships among the variables of digitalization, intellectual capital, and financial performance, both partially and simultaneously (Sugiyono, 2020).

### **Population and Sample**

The population refers to the subjects within a specific area who meet the criteria for the research problem or object of study. In this study, the population consists of companies in the new economy

sector listed on the Indonesia Stock Exchange during the 2021-2023 period that published financial statements for the year ending in December.

The sampling method used is saturation sampling. Saturation sampling is a technique where all members of the population are included in the sample. The reason for using total sampling is that, according to Sugiyono (2017), when the population is fewer than 30, the entire population is considered the research sample. The most important aspect of sample selection is that the sample must represent the population (Rahman, 2023). Therefore, the sample size used in this study is three companies.

### Data Analysis Method

Descriptive statistics are used to summarize the characteristics of the research data by presenting minimum and maximum values, means, and standard deviations for the variables of digitalization, intellectual capital, and financial performance, providing an initial overview of the data distribution before further analysis. Before performing a multiple regression analysis, a series of classical assumptions must be met to ensure the model produces unbiased and reliable estimates. These tests include the normality test, which examines whether residuals follow a normal distribution using graphical methods and the Kolmogorov–Smirnov test (Wayan Widana & Muliani, 2020); the multicollinearity test, which evaluates correlations among independent variables using tolerance and VIF values (Ningsih & Dukalang, 2019); the heteroscedasticity test, conducted through the Glejser method to determine whether residual variance is consistent across observations (Yunianto, 2021); and the autocorrelation test using the Durbin-Watson (DW) statistic to assess whether residuals between periods are correlated (Lantip & Daljono, 2023). Collectively, these procedures ensure that the regression model meets essential statistical assumptions, thereby supporting the validity of hypothesis testing.

## 4. Results

### Normality Test

The normality test examines whether the disturbance variables (or residuals) in a regression model follow a normal distribution. A good regression model should have a normal or approximately normal distribution.

**Table 1. Normality Test**

One-Sample Kolmogorov-Smirnov Test	
	Unstandardized Residual
Asymp. Sig. (2-tailed) <sup>c</sup>	.200 <sup>d</sup>

Source: Output SPSS v27

Based on the results in Table 1, the nonparametric Kolmogorov-Smirnov normality test yields a p-value of 0.200. Therefore, the data are normally distributed, as the p-value is greater than 0.05 ( $0.200 > 0.05$ ).

### Multicollinearity Test

The purpose of the multicollinearity test is to examine whether there is a high or perfect correlation among the independent variables in the regression model. A good regression model should not have any correlation among the independent variables.

**Table 2. Multicollinearity Test**

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
1 DT	0.805	1.243
VAIC	0.805	1.243

Source: Output SPSS v27

Based on the calculations in Table 2, the tolerance value for digitalization (DT) is 0.805, and the VIF value is 1.243. For intellectual capital (VAIC), the tolerance value is also 0.805, and the VIF value is 1.243. The results of the testing for the independent variables in this study meet the criteria, and no signs of multicollinearity were found, allowing for the continuation to the next stage.

### Heteroskedasticity Test

The purpose of the heteroskedasticity test is to examine whether the variance of residuals differs across observations in the regression model. If the variance of residuals remains constant across observations, it is called homoskedasticity. A good regression model exhibits homoskedasticity. Heteroskedasticity can be tested using the Glejser test, which involves regressing the absolute values of the residuals on the independent variables.

**Table 3. Heteroskedasticity Test**

	Model	T	Sig.
	(Constant)	0.839	0.433
1	DT	-0.088	0.933
	VAIC	1.004	0.354

Source: Output SPSS v27

Based on the results in Table 3, the Glejser test indicates that the regression model is free of heteroskedasticity, as the digitalization (DT) and intellectual capital (VAIC) variables have values of 0.933 and 0.354, respectively. Since these values are both greater than 0.05, heteroskedasticity does not occur.

### Autocorrelation Test

The purpose of the autocorrelation test is to examine whether there is a correlation between the error terms in period  $t$  and the error terms in period  $t-1$  (previous period) in the linear regression model. If such a correlation exists, it indicates an autocorrelation problem. A good regression model is free of autocorrelation.

**Table 4. Autocorrelation Test**

Model	Durbin-Watson
1	1.781

Sumber: Output SPSS v27

Based on the calculations in Table 4, the Durbin-Watson statistic is 1.781. This value is compared with the Durbin-Watson Table ( $k, n$ ), where  $k$  represents the number of independent variables, and  $n$  is the number of data points. The DW Table value for  $k=2$  and  $n=9$  is 1.6993. To ensure the model is free from both positive and negative autocorrelation, the value of  $d$  (Durbin-Watson) must fall between  $d_U$  and  $(4-d_U)$ . From this test result,  $1.6993 < 1.781 < 2.3007$ , indicating the model is free of autocorrelation.

### Hypothesis Test

**Table 5. Partial Test (t-Test)**

	Model	T	Sig.
	(Constant)	0.471	0.654
1	DT	-0.454	0.666
	VAIC	-2.828	0.030

Source: Output SPSS v27

Based on the t-test results with a t-value of 2.5706 at a 5% significance level and degrees of freedom (df) = 6, digitalization (DT) shows a t-value of -0.454 and a p-value of 0.666, indicating that digitalization does not affect financial performance (ROA). In contrast, intellectual capital (VAIC) shows a t-value of -2.828 and a p-value of 0.030, exceeding the t-table threshold, indicating that it has a significant effect on financial performance.

#### **Determination Test Coefficient (R<sup>2</sup> Test)**

The adjusted R<sup>2</sup> test is used to determine how well the model explains the variation in the dependent variable. The coefficient of determination ranges from 0 to 1.

**Table 6. Coefficient of Determination Test (R<sup>2</sup> Test)**

Model	Adjusted R Square
1	0.545

Sumber: Output SPSS v27

Based on the SPSS output in Table 6, the value of the coefficient of determination (Adjusted R-Squared) is 0.545. This means that the influence of digitalization (DT) and intellectual capital (VAIC) variables on financial performance (ROA) is 54.5%, with the remaining 45.5% attributable to other variables not included in this study.

## **5. Discussion**

### **The Influence of Digitalization on Financial Performance**

The findings of this study indicate that digitalization does not have a significant impact on the financial performance of new-economy companies listed on the Indonesia Stock Exchange. This result suggests that adopting digital technology alone is not sufficient to achieve immediate improvements in profitability. In the context of early-stage digital firms, digitalization often requires substantial investment in technological infrastructure, system development, and platform integration, which may not generate short-term financial benefits. This aligns with the argument that digital transformation is a long-term strategic investment whose outcomes depend on alignment between technology and business strategy (Xin & Choudhary, 2019). From a theoretical perspective, although digitalization is expected to enhance efficiency and market responsiveness as predicted by the Resource-Based View (RBV), the absence of financial improvement in this research implies that digital capabilities may not yet be fully developed or optimally utilized. Many new economic companies operate in rapid-growth, high-burn business models that prioritize customer acquisition over profitability, potentially weakening the direct link between digital transformation and financial returns (Diningrat et al., 2022). The findings of this study are consistent with previous research by Anindita and Muharam (2023), who found that digitalization in the banking sector did not immediately translate into better financial performance due to high implementation costs and the time needed to achieve technological maturity. Similarly, Kristianti et al. (2021) reported that financial technology development alone does not always lead to improved profitability unless accompanied by strong operational integration.

Even though digitalization did not enhance financial performance in this context, its strategic relevance remains high. Many digital-based companies are still transitioning from investment-heavy phases toward more stable operational models. Therefore, the non-significant effect found in this study should be interpreted as part of the digital transformation lifecycle rather than an indication of inefficiency. Continuous optimization, human capital development, and more substantial alignment between technological tools and business processes may enable the financial impact of digitalization to emerge more strongly in the future.

### **The Influence of Intellectual Capital on Financial Performance**

The results of this study demonstrate that intellectual capital significantly influences financial performance in new economic companies. This indicates that firms with more effective

utilization of their human, structural, and relational capital are better positioned to improve operational efficiency and support long-term business value creation. Intellectual capital enhances innovation, strengthens internal processes, and improves service quality factors that can ultimately contribute to stronger financial outcomes (Dewi et al., 2020). These findings are consistent with the RBV theory, which emphasizes that intangible assets such as knowledge, organizational routines, and employee competencies serve as strategic resources that generate sustained competitive advantage. In digital-based companies, intellectual capital becomes even more critical because technological tools require complementary human expertise and organizational systems to function effectively. Without adequate intellectual capital, digitalization efforts may not translate into value creation. The results also align with previous studies by Kurniawati et al. (2020) and Murti et al. (2023), which found that intellectual capital positively influences financial performance, especially when companies leverage human and structural capital to enhance productivity. These studies emphasize that intellectual capital plays a central role in enabling innovation, improving operational efficiency, and strengthening competitive positioning.

However, the findings also reflect that intellectual capital in new economic firms may still be in the early stages of development. Many digital companies continue to invest heavily in talent acquisition, capability building, and organizational restructuring, which may temporarily reduce profitability. This interpretation aligns with the work of Rahmaniar et al. (2020), who found that intellectual capital does not always produce immediate financial improvements, especially when companies have not yet matured in their knowledge management processes.

## 6. Conclusion

This study concludes that digitalization does not have a direct impact on the financial performance of new-economy companies listed on the Indonesia Stock Exchange. In contrast, intellectual capital has a significant, positive influence on ROA. These findings reinforce the theoretical premise of the Resource-Based View (RBV), which argues that sustainable competitive advantage is derived not merely from technological adoption but from the strategic utilization of intangible, knowledge-based assets. The insignificant effect of digitalization signals that technology, as a resource, does not automatically generate value unless supported by complementary capabilities, organizational routines, and absorptive capacity thus validating the notion that digital tools require integration with firm-specific knowledge to be effective. Conversely, the significant role of intellectual capital confirms theoretical claims that human, structural, and relational capital serve as core drivers of value creation in knowledge-intensive and digitally oriented environments. These empirical results extend existing theory by demonstrating that in emerging digital economies such as Indonesia, intellectual capital not digitalization alone serves as the primary mechanism through which firms convert innovation potential into financial outcomes. Therefore, the study contributes theoretically by highlighting the centrality of intangible assets in shaping firm performance and by emphasizing that digital transformation must be understood as an ecosystem of resources rather than a stand-alone strategic initiative.

## Recommendation

Managers should prioritize structured intellectual capital development by strengthening digital talent, formalizing knowledge-sharing systems, and aligning digital initiatives with measurable performance targets to ensure technology adoption generates financial value. Investors are encouraged to evaluate firms not only on digital expansion but also on the maturity of their human, structural, and relational capital, as these elements better signal long-term value creation in new-economy industries. Regulators should design targeted incentives that encourage capability building, promote transparent disclosure of digital and intellectual capital indicators, and reinforce governance standards that integrate ESG principles to support sustainable growth within Indonesia's digital economy.

## Limitations and avenues for future research

This study is limited by its narrow sample of new-economy firms, its short observation period, and the use of two independent variables that may not fully capture the complexities of digital transformation and intangible resources. The reliance on secondary data and a quantitative design also restricts deeper contextual interpretation. Future research should incorporate broader samples, longer time horizons, and additional variables such as innovation capability or digital maturity, as well as mixed-method approaches to enrich the understanding of how digitalization and intellectual capital shape financial performance.

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